



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Physiotherapy-2022/B.Physiotherapy-2023

Course Name – Human Physiology - II

Course Code - BPTC202

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Identify the fibers where nerve conduction is slowest:
- | | |
|-------------------|-------------------|
| a) A alpha fibres | b) A beta fibres |
| c) C fibres | d) A delta fibres |
- (ii) Depolarization of nerve is reported due to:
- | | |
|----------------------------------|---------------------------------|
| a) Opening of calcium channels | b) Opening of chloride channels |
| c) Opening of potassium channels | d) Opening of sodium channels |
- (iii) State the cause of repolarization:
- | | |
|------------|--------------|
| a) Sodium | b) Magnesium |
| c) Calcium | d) Potassium |
- (iv) Choose the correct option for: Thin filament consists of all, except:
- | | |
|----------------|-------------|
| a) Actin | b) Myosin |
| c) Tropomyosin | d) Troponin |
- (v) Identify the option that thickening of axon leads to:
- | | |
|---|----------------------------------|
| a) Increased absolute refractory period | b) Demyelination |
| c) Increased speed of conduction | d) Decreased speed of conduction |
- (vi) Select when skeletal muscle contraction ends:
- | | |
|--|---|
| a) Ions move out of cytoplasm | b) Closure & indrawing of receptors |
| c) Acetylcholine is absorbed from neuromuscular junction | d) Decreased calcium outside sarcoplasmic reticulum |
- (vii) State the feature of Type I muscle fiber:
- | | |
|----------------|---------------|
| a) Anerobic | b) Glycolytic |
| c) Fast acting | d) Red |

- (viii) State the action of calmodulin:
- a) Activation of ryanodine receptors
 b) Activation of protein kinase
 c) Release of acetylcholine
 d) None of the above
- (ix) Recall the responses after Exercise training can lead to a lowering of resting heart rate.
- a) subcardia
 b) bradycardia
 c) hypocardia
 d) infarction
- (x) Choose the Partial pressure of oxygen in the inspired and expired air is respectively
- a) 158 and 116 mm Hg
 b) 158 and 40 mm Hg
 c) 100 and 95 mm Hg
 d) 40 and 95 mm hg
- (xi) Choose the correct statement of Cardiac output
- a) the volume of blood pumped by each ventricle per minute
 b) the proportion of blood pumped out of each ventricle during systole
 c) the product of the ejection fraction and heart rate
 d) the electrical output of the cardiac conduction system during a single cardiac cycle
- (xii) Collect the proper statement of Blood pressure
- a) Heart sound
 b) Peripheral resistance
 c) Heart valve
 d) Arch of aorta
- (xiii) Identify the disease leads to dystrophic gene mutation
- a) myositis ossificans
 b) nemaline myopathy
 c) metabolic myopathy
 d) all of the above
- (xiv) State the reason, hyperactive heart may be due to
- a) Congenital heart disease
 b) Hypertrophied cardiac muscle
 c) Cardiac hypoxia
 d) Congenital heart disease
- (xv) Select the factor regulating pulmonary circulation include
- a) Left arterial pressure
 b) Alveolar pressure
 c) Cardiac output
 d) all of the above

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain the functions of cerebral cortex. (3)
3. State about the clonus. (3)
4. Distinguish between upper and lower motor neuron. (3)
5. Explain the functions of basal ganglia. (3)
6. Illustrate the type of receptors involved in sensory signals. (3)

OR

Illustrate about the role of spirometry. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Enumerate the contractile properties of skeletal muscles. (5)
8. Explain the body temperature regulation. (5)
9. Describe and differentiate between external and internal respiration. (5)
10. Describe the process of Action potential mentioning different phases. (5)
11. Explain about the thalamic syndrome. (5)
12. Explain reflex arc and the properties of reflexes. (5)

OR

Differentiate the vestibular apparatus with their functions.

(5)
